

AN APPROACH TO THE HOME BUILDING PROBLEM

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Building a home may well be considered as one of the first important personal problems of investment, planning, and maintenance which the professional and technical man desires to undertake. It is with the hope that the elements of the problem may be more clearly defined that this article is submitted.

1. BUDGET

The total expenditure naturally relates to present income and assured future income. Many lending institutions assume that total monthly payments should be from 20% to 25% of the applicant's monthly income, less if possible, and assuming this amount to include principal, interest and taxes. In addition to this a definite allowance should be made for maintenance of the improved property.

When the amount of the budget is established, the items to be covered by it should then be determined. These include the cost of the lot and subsequent survey locating property lines, contours, trees, easements, set-back lines and utilities, all as a first item. Second, the cost of the plans, supervision and financing of loans. Third, the contract cost for the construction of the building complete and ready for occupancy. Fourth, the cost of additional furniture, rugs, drapes, and equipment not now owned. Fifth, the landscaping and improvement of the grounds. And sixth, an item for moving charges, initial deposits, and miscellaneous costs incidental to actual occupancy.

The relationship and importance of these individual items may well be considered with your architect prior to any actual financial steps being taken.

2. TECHNICAL SERVICES

To insure complete satisfaction and protection it is almost mandatory to have as instruments of service complete plans, specifications and written agreements. These documents are required by all construction lending agencies, the size of loan the project will support being largely determined by them.

An architect prepares this information and supervises construction for a stipulated fee, usually a percentage of the cost of construction, while some contractors provide this information through their own affiliations, adding the charges to the contract sum.

To aid in selecting an architect or contractor, the prospective builder should check with two or three recent clients and examine their buildings. Further checks may be made through the State Architectural Board, the State Contractor's License Board or bank references.

3. CONSTRUCTION LOANS

These are available through banks, insurance companies, mortgage companies, Federal savings and loan associations, building and loan associations and other private sources.

The Federal Housing Administration only insures loans, and this only through certain accepted lending institutions.

It is suggested that an advance check-up on the complete charges incidental to making a loan, be made prior to final budget set-up. These charges may amount to approximately 3% of the amount of the loan, varying either way with the

size of the project, type of loan, the lending agency and whether or not F.H.A. insurance is used. The exact figures on these total charges will not be obtainable until plans and specifications are filed for appraisal and a commitment is obtained.

4. BUYING A LOT

Convenience of access to work, schools, stores, and transportation will usually determine the general location of the lot, but it is suggested that prior to actual purchase the architect be requested to check over the site. His comments as to type of house, location, view, sun exposure, prevailing wind, drainage, type of soil, fill and general adaptability to the problem will be a valuable addition to the information which the owner should acquire regarding deed restrictions, zoning, traffic, utilities and neighborhood.

In nearly all instances the presence of trees on the lot will add definitely to the use and appearance of the finished product, as well as reducing the time and cost of landscaping.

5. THE HOUSE

The cost of the house and garage should, naturally, bear a just relationship to the lot cost and the total budget, provided a maximum investment value for the total improvement is to be expected. Furthermore, since this is the major item of the whole budget, ample time and thought should be given its design, both for utility and desired appearance.

In function the house should accommodate the present family, giving consideration to space for adults and children of both sexes as well as considering the possible need for future expansion.

In establishing the present and future needs, such items as work and study space, recreation areas, sleeping, cooking, eating and loafing areas, as well as spaces which can be used for more than one function, should be given careful thought.

In the light of these general considerations and combined with the style or type of architectural appearance desired, a fairly comprehensive problem may be presented for solution. A suggestion in this line is to make a list of rooms needed and note therewith the desirable requirements of each. These might be tabulated under the headings of Size, Exposure to Sun, Relationship to Other Rooms, Special Features, and View.

As soon as these items are presented and the preliminary sketches begin to take shape, the questions of wall space and furniture arrangement naturally must be considered, and, as always, the important factor of budget will appear.

It is at the stage when the preliminary sketches are being completed that so many of the little items of convenience must be considered. Here is the time when the prospective home owner who has kept a scrap-book of desired features such as special shelves, closets, drawers, kitchen arrangements, built-in features, and miscellaneous accessories will feel repaid for the hours of cutting and pasting.

A list of a few of these conveniences would include mail box, illuminated house number, medicine cabinets, book cases, shoe racks, door grilles, milk and package receivers, iron recep-

tacles, fans, garbage disposal units, towel racks, ironing boards, mirrors, awnings, bath accessories, light fixtures, hardware, wall paper styles, heat registers and many others.

To effectively combine these desires into a usable form again a schedule would be a most practical reference form. The following illustrates one such type:

Room Name	Wood Work	Floor	Wainscot or Paneling	Walls	Ceilings	Special Features or Notes

With the approval of the sketches and starting of the working drawings and specifications further decisions must be made regarding plumbing fixtures, quality of plumbing, heating and electrical work, roof materials, exterior wall materials and extent of ground improvement desired. This latter could include walks, walls, driveways, steps, fences, service yard, incinerator, sprinkling system, yard piping, noiseless couplers or separate meters for yard lines, lattice work, drainage, grading, lawns, trees and shrubs, all of these elements being generally considered by and provided for under the landscape architect's contract if such services have been retained, or else under the general contract.

In this latter consideration it might be well to say that if the budget can possibly stand it, the services of a landscape architect will be many times repaid in the enjoyment and satisfaction derived from well landscaped grounds.

The next step in our sequence is the preparation of the working drawings and specifications, on the completion of which the bids are taken. Before the bids are taken, however, it is important to read carefully and understand completely the drawings and specifications. As in the case of any contract document, you get only what is included therein, and no more except at an extra charge.

6. CONSTRUCTION

After the bids are taken and the loan applied for and committed, the most interesting and exciting stage of the development begins with the start of actual construction. This period can be most pleasant or unpleasant depending upon how complete is the written and verified information with which the job is undertaken. Generally, the more information, the less misunderstanding and extra charges, and vice versa.

During this period the building will be inspected by City or County Building Inspectors who check only to see if all local and state fire, health, and safety ordinances are complied with. These ordinances are minimums only for material, structure, and workmanship.

Furthermore, if a lending agency is involved, its inspector will check the job on three or four occasions to see that the value of the loan goes into the job. These inspections, however, do not assure that all of your desires are included, except where they coincide with the certain minimum requirements of the ordinances or lending institutions' construction standards. For example, colors, painting, wall papering, light fixtures, hardware, and general interior finish are often left to the owner or his agent.

7. COMPLETION

There are certain laws relative to building completion which are designed to protect all concerned. With this in mind the payments on the contract should be so made that upon completion a balance of 15% to 20% should remain unpaid, this balance not to be paid until 35 days after acceptance of the building and filing of notice of completion, which date will follow the closing of the mechanics' lien period.

A completion date should be included in the contract to prevent loss to the owner due to unnecessary delay on the job, and in some cases a completion bond or a joint control bank account may be necessary.

Fire insurance should be carried on the house by the owner during construction, as loss by fire to materials incorporated into the structure will be the owner's loss unless protected as above mentioned.

Another safeguard is to check the contractor's insurance policies before signing the contract. See if his compensation as well as liability insurance policies are paid up. Also verify whether or not he carries owner's contingent liability insurance to protect you from damage by law-suit, even though caused by his carelessness.

Space has not permitted a more than casual glance at the home builder's problem, yet it is hoped that this outline of the problem will help to clarify the situation for many who are about to build. A more technical discussion of available and proposed construction methods for residential work is being considered for a future issue.

For further information on this subject many valuable pamphlets are published by both government and private agencies, one of the best obtainable in brief and outlined form is entitled "So You're Going To Build", prepared by the Building Research Sub-Committee of the Building Industries Committee of the Los Angeles Chamber of Commerce, and available through local material and supply dealers.

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JOIN ILLINOIS TECH STAFF

Two former Institute research workers are among the new professors appointed to the staff of the Illinois Institute of Technology, recently formed by the merger of Armour Institute of Technology and Lewis Institute, in Chicago. Announcement was made by President H. T. Heald of the Illinois school.

Dr. Saul Winstein, Ph.D., '38, is joining the chemistry department. He has studied under a National Research Fellowship at Harvard, after doing graduate work at Caltech and U.C.L.A.

Dr. R. A. Budenholzer, Ph.D., '39, will be in the mechanical engineering department. Budenholzer graduated from New Meico State College, and after taking his degree at Tech was an assistant in mechanical engineering and a research fellow. Much of his work was in connection with American Petroleum Institute projects.

Both men will assume their new duties this September.